

PILOT PROGRAM FOR CLIMATE RESILIENCE

Summary - Project/Program Concept Note for the Use of Additional PPCR Resources

1. Country/Region:	Jamaica	2. CIF Project ID#:	(Trustee will assign ID)
3. SPCR endorsement date:	<i>November 2011</i>		
4. Project/Program title:	<i>Promoting Community-based Climate Resilience in the Fisheries Sector of Jamaica</i>		
5. Type of PPCR investment	<i>Private:</i>	<i>Public: Public</i>	<i>Mixed:</i>
6. Funding request (in USD million total) (including preparation grant):	<i>Grant: USD 5.00 Million in total (including USD 200,000 project preparation grant)</i>	<i>Loan:</i>	
7. Financing will be used for:	a – adding to an approved PPCR project/program		<input type="checkbox"/>
	b – adding to a PPCR project/program in preparation for Sub-Committee approval		<input type="checkbox"/>
	c- a new PPCR project/program ¹		×
8. Implementing MDB:	<i>The World Bank</i>		
9. National executing agency²:	<i>Planning Institute of Jamaica (PIOJ)</i>		
10. MDB PPCR focal point and project/program task team leader (TTL):	<i>Headquarters-PPCR Focal Point: Kanta Kumari</i>	<i>TTL: Enos E. Esikuri</i>	
11. Project/Program Description (including objectives and expected outcomes):			

¹ Same as above.

² Can be Government agency or private sector firm

Background: During its November 2012 meeting, the PPCR Sub-Committee agreed to allocate an additional USD 5 million in grants to Jamaica in order to further advance the objectives and implementation of Jamaica's Strategic Program for Climate Resilience (SPCR). The purpose of this proposal is to secure the additional US\$5 million in grant funding allocated to Jamaica by the PPCR Sub-Committee in November 2012

Context and General Description: The fisheries sector in Jamaica provides direct and indirect employment to over 40,000 persons and contributes to the local economy of many fishing communities, and makes an indirect contribution to the livelihoods of over 200,000. The social impact of the Jamaican fishing industry is particularly evident in the fishing communities, which are mainly rural, and which have fairly high rates of poverty. However, climate change poses many threats to Jamaican fisheries, including fish stock loss and damage to aquaculture – this combined with unsustainable practices (such as overfishing) is leading to declining yields in the fisheries sector. For instance, the Jamaica and the rest of the Caribbean region saw extremely warm sea temperatures in 2005 which caused the largest bleaching of coral reefs in the region, to date. This event wiped out as much as 70% of the reefs in some countries³. Not only did this result in the loss of biodiversity, but also the natural barriers to hurricanes and storm surges as well as significant loss of livelihoods of many fishing communities and entities. The decline of reef fisheries has brought appreciable losses to the Jamaican economy. Another silent impact of climate change on Jamaican fisheries is the increased acidification of the ocean. Ocean acidification and its impact on calciferous marine life is also a major concern for fisheries. The loss of Conch, one of the biggest fisheries/agricultural exports and generator of foreign exchange, would bring an estimated 2% loss in Jamaica's GDP. The Jamaican conch industry not only contributes significantly to the country's GDP but is also a major industry on which many fishers and their families depend. Hence climate change impacts contribute to endangering the livelihoods of the poor fishing communities that depend on the fisheries sector and makes them even more vulnerable to climate-related hazards. This Project seeks to increase the resilience of the fisheries sector and the fishers to climate change impacts through targeted community-based actions. Furthermore, the proposed Project is part of the Government of Jamaica's efforts to encourage the adoption of climate resilient practices among the fishing communities and in the fisheries sector as a whole.

Objective: The Project development objective is to enhance community-based climate resilience among targeted fishing communities of Jamaica. This would be achieved by investing in (i) strengthening the fisheries policy and regulatory framework including making it climate-smart, (ii) viable alternative livelihoods that enhance sustainable fisheries, and (iii) capacity building and awareness raising among the fishing communities. These measures would be implemented in a participatory approach with the targeted fishing communities. While national and international best practices will inform the design and implementation of the supported activities, the use of local knowledge will be crucial to the success of the Project.

Outcomes: The key outcomes expected from the Project include:

1. Strengthened and climate-smart fisheries policy and regulatory framework;
2. Reduced vulnerability of the targeted fishing communities to climate shocks;
3. Diversified and strengthened livelihoods of targeted artisanal fishers.

12. Activities to be financed from the additional resources (including breakdown of funding by component, as appropriate):

Component 1: Strengthening the Fisheries Policy and Regulatory Framework (USD 1 million): An updated and strengthened policy is critical for ensuring a sustainable and climate resilient

³ Allen and Garcia-Navarro, 2010

Jamaican fishing industry. This activity would support an enhanced framework for the regulation and management of the sector including restoration of resources in overfished areas through community based measures, and carrying out community-based monitoring, control and surveillance actions to limit illegal actions. Furthermore, Jamaica's SPCR notes that livelihoods in the agriculture and fisheries sector are the most vulnerable to climate related disasters and this partially explains the chronic levels of poverty observed in fishing communities. Indeed the decline in the performance of the fisheries sector is directly related to the sector's vulnerability to climate-related disasters coupled with unsustainable practices. This highlights the importance of integration of climate change resilience measures in fisheries management. Conduct vulnerability assessment for the fishing sector and develop appropriate climate resilience measures, including consultations, to incorporate climate change resilience considerations into Jamaica's fisheries policy and regulatory framework in line with the measures identified in the SPCR.

Component 2: Alternative Livelihoods and Aquaculture for Sustainable Fisheries (USD 3 million). Depletion of fish stocks has been seen as a major issue for the local fisheries industry for many years, particularly in relation to near-shore or reef fisheries. The depletion of near-shore fish stocks has led to more stringent regulation, but given the high degree of pressure from artisanal fishers with limited alternative means of livelihood, efforts at regulation are extremely costly. Measures to limit the further entry of artisanal fishers into the industry and to encourage exit are necessary; but for these to be effective, they must also be efficient. Otherwise, the costs of enforcement may be just as high as the costs of non-enforcement. Therefore appropriate incentives must be put in place to facilitate the exit of artisanal fishers from the industry including provision of alternative livelihoods. The depletion of domestic fish stocks has the consequence of increased dependence on imported food fish, unless the food fish deficits can be significantly reduced, if not eliminated, by corresponding increases in aquaculture products. Therefore this component would support viable alternative livelihoods for the targeted fishing communities. This would include:

(i) Aquaculture: Given concerns about declining fish stocks and the rising demand for fish and fish products in the domestic market as well as globally, aquaculture is seen as a key component in the development and management of fisheries resources and an important climate resilience measure. This activity would facilitate the development and management of responsible aquaculture based on the best available scientific information. The Project would support establishing small fish farms, training and technical inputs (e.g., fingerlings) and partner with aquaculture/processing enterprises to contract the new fish farmers and provide technical inputs and farming materials. This would allow displaced artisans to make the investments that support their livelihoods. The Project will support suitable activities in selected areas (e.g., South coast) to promote this model. In addition, the Project would support fisher folk, women and youth in targeted fishing communities to invest in the production, sale and export of ornamental fish. The global demand for ornamental fish is estimated at about US\$6 billion. Jamaica is well poised to be a major player in this industry, having a suitable climate and close proximity to the world's largest markets in the USA and Canada. So given this high demand, ornamental fish farming provides a ready opportunity for high value employment and income-generation for Jamaican fishers.

(ii) Seaweed (Irish moss) cultivation-based poly-culture: Support and training will be provided to marine-based sustainable livelihoods activities, selected and validated by the participating communities. With fish stocks being depleted, as a result of overfishing, pollution, climate change and other factors, mari-culture is not only an alternative means of economic benefit for the communities but also a means of reducing pressure on the wild populations and to fill the demand for these products, while keeping the communities' sea faring traditions alive. The main thrust of this component is **poly-culture** which is the growing of one or more species in conjunction with the primary target species of cultivation. In this case seaweed (the primary species) would be grown in conjunction with **lobsters, sea cucumber, conch, and crab**. Cultivation of **oysters** in mangroves would also be supported in the coastal areas. The approach would be an integrated system (poly-culture) where the cultivation of seaweed, crab, conch, lobster, and

sea cucumber is undertaken on the same location in order to maximize returns from the same unit of area. This approach not only maximizes effort and returns, but also affords the communities the opportunity to reduce risk in the event one of the products does not perform well at cultivation or commercialization stages. Seaweed (Irish moss) is a fairly versatile product that has been traditionally used in the production of beverages in Jamaica and has become quite popular over the last decade. The proposed seaweed production is intended to cover targeted coastal areas involving a significant number of fisher folk. Typical seaweeds harvested on the Jamaican coast offer numerous commercial uses including local consumption as food and drink, production of *carrageenan* for food ingredients, dietary supplement, fertilizer, bioplastics, dyes and colorants, pharmaceuticals, and potentially biofuel. With the rise in the tourism industry, the demand for seaweed for therapeutic purposes, as part of spa treatment regimens, has boosted its use significantly. Internationally, there are several industrial uses for seaweed. It is used in the manufacture of fertilizers, soil conditioners, animal feed and fish feed. It is also used as biomass for fuel, in integrated aquaculture and wastewater treatment. So there is a market locally and internationally. Seaweeds also help to reduce water pollution from farm waste and agriculture run-off and wastewater by absorbing nutrients.

Component 3: Capacity Building and Awareness Raising (USD 0.4 million). The development of the ability of the fishing cooperatives to provide commercial services to fishermen as well as to serve as facilitators in the process of transitioning to alternative livelihoods will require a significant effort to increase the capacities of these organizations. This activity will support the improvement of the organizational capacity cooperatives and civil society involved with the artisanal fishers, to enable them to spearhead programs for upgrading of artisanal fisheries, and facilitating their transition into alternative activities. The component would also finance:

(i) Training: Given the low levels of educational attainment among artisanal fishers, many may have difficulties in effecting a successful transition into other related activities in areas where fishing is allowed, and may face problems with the reduction of fishing in depleted areas. Suitable skills-based training would be provided to facilitate their transition to the new fishing zones or to alternative livelihoods. This training would also include targeted community-to-community learning tours/visits and knowledge exchange in order to share best practices.

(ii) Support to fishers' organizations. The formation of cooperatives and other types of associations of fisher folk will be supported, since many development and management issues can best be dealt with through local groups. Supported climate-resilient fisheries management activities would be implemented in a community-based manner by the fishing communities.

(iii) Awareness building and behavior change: Measures will be implemented to increase public awareness and education about capture and culture fisheries and related issues in order to increase public support and participation in sustainable fisheries management policies. The transformation of the fisheries sector will require significant behavior change. Adequate strategies would be implemented to achieve this.

Component 4: Project Management including M&E (USD 0.4): This component would support oversight and implementation of the Project including management and fiduciary services. It would also finance capacity building for monitoring and evaluation. The M&E aspect would include targeted knowledge management activities aimed at capturing and sharing overall lessons within Jamaica and across countries under the PPCR Caribbean regional track. This would include tailored South-South learning and exchange visits.

13. Briefly summarize how the proposed project/program further advances the objectives of the endorsed SPCR:

The proposed project directly supports Jamaica’s SPCR which expressly seeks to conduct vulnerability assessment for the fishing sector and develop appropriate adaptation strategies. This is in recognition of the vulnerability of this sector to climate change related risks and hazards. Indeed under the SPCR strategic actions for coastal and marine resources, the SPCR seeks to “Conduct vulnerability assessment for the fisheries sector and integrate climate change adaptation and risk reduction strategies in fisheries plans as well as the coastal management plans” (see Table 16, page 51 of Jamaica’s SPCR). This was identified as a key means of facilitating sectoral adaptation measures in the vulnerable sectors. The project is also in line with the new World Bank Country Partnership Strategy (FY2014-2017) for Jamaica which seeks to address climate change vulnerabilities by investing in measures that protect the poor and enhance shared prosperity.

In addition, the SPCR identified *Agriculture and Food security* as one of the 5 priority sectors for implementation of climate resilience measures (see section 6.3, page 42 of SPCR). Fisheries in Jamaica currently play an important part in food security, and given the existing resources, have the potential to increase their role in ensuring the availability of nutritious, affordable and accessible source of food. Capture fisheries and aquaculture contribute to the overall supply of fish and fish products, with domestic production currently accounting for about 20 per cent of supply. Per capita consumption of fish is approximately 19.6 kg per annum, but the potential exists to expand both marine capture fisheries and aquaculture in order to meet local demand for fish as food. This would go a long way in enhancing food security and reducing the need to import fish for domestic consumption.

14. Expected Key Results from the use of the new resources⁴

Note: These indicators will be fleshed out further during the preparation stage

Result	Indicators (consistent with approved PPCR Results Framework)
(a) Improved integration of climate resilience in fisheries policy and regulatory framework at all levels.	<p>Updated fisheries policy and regulatory framework including incorporation of climate resilience measures.</p> <p><i>Linked with PPCR Core Indicator 1: Degree of integration of climate change in national, including, sector planning.</i></p>
(b) Increased sources of alternative livelihoods and income generating activities to withstand/recover from the effects of climate change/variability on fisheries sector.	<p>Number of supported alternative livelihoods and income generating activities adopted by the targeted communities.</p> <p><i>Linked with PPCR Core Indicator 3: Quality and extent to which climate responsive instruments/investment models are developed and tested</i></p> <p><i>Linked with PPCR Core Indicator 4: Extent to which vulnerable households, communities, businesses, and public sector services use improved PPCR supported tools, instruments, strategies, and activities to respond to climate variability or climate change.</i></p>

⁴ If the request is for adding resources to an already approved PPCR project/program, list relevant results of approved project/program and/or additional results the additional resources will contribute to and the relevant indicator and revised target.

(c) Increased capacity of the project beneficiaries to withstand/recover from the effects of climate change/variability on fisheries sector.	Number of fisher folk (disaggregated by gender and age) in targeted communities with increased monetary or non-monetary benefits from Project activities <i>Linked with PPCR Core Indicator 5: Number of people supported by the PPCR to cope with the effects of climate change.</i>	
15. Expected Co-Financing for the project or program⁵:		
	<i>Amount (USD million):</i>	<i>Type of contribution:</i>
• Government	2	In-Kind
• MDB	1	TA
• Private Sector (please specify)		
• Bilateral (please specify)		
• Others (please specify)		
Total	3	
<p>16. Expected Project/Program Timeframe Project preparation: August 2014– February 2015 Appraisal –March 2015 Negotiation – April 2015 Board approval – May 2015</p> <p>Expected Sub-Committee approval date⁶: The Project Appraisal Document is expected to be submitted to the PPCR Sub-Committee for consideration in February 2015.</p>		

⁵ This includes: in-kind contributions (monetary value), MDB loan or grant, parallel financing, etc.

⁶ Only for new projects or projects in preparation for Sub-Committee approval

17. Other Information:

- (i) The PPCR-funded Jamaica Improving Climate data and Information Management Project has the objective to improve the quality and use of climate related data and information for effective planning and action at local and national levels. The project would prepare updated climate scenarios specific to Jamaica to assess the expected consequences of climate change for priority sectors (e.g., water resources, agriculture, human health and tourism) and develop sector based methodologies for climate resilient planning and decision making. The current proposed project to be implemented under the Ministry of Agriculture and Fisheries will benefit from this effort by, for example, utilizing the data generated for use in the design of climate resilience strategies in the fisheries sector.
- (ii) At the moment there are no fisheries related activities by IBRD in Jamaica that could be linked to the proposed project. As noted above, the Improving Climate Data and Information Management Project seeks to upgrade the hydromet system in the country; and this would obviously support data and information that would be useful for the fisheries sector. However, there are very early discussions at the moment to utilize technical assistance resources from IBRD to support this project.
- (iii) The proposed project directly supports Jamaica's SPCR which expressly seeks to conduct vulnerability assessment for the fishing sector and develop appropriate adaptation strategies. This is in recognition of the vulnerability of this sector to climate change related risks and hazards. Indeed under the SPCR strategic actions for coastal and marine resources, the SPCR seeks to "Conduct vulnerability assessment for the fisheries sector and integrate climate change adaptation and risk reduction strategies in fisheries plans as well as the coastal management plans" (see Table 16, page 51 of Jamaica's SPCR). This was identified as a key means of facilitating sectoral adaptation measures in the vulnerable sectors. In addition, the SPCR identified *Agriculture and Food security* as one of the 5 priority sectors for implementation of climate resilience measures (see section 6.3, page 42 of SPCR). Fisheries in Jamaica currently play an important part in food security, and if well managed can contribute significantly to achieving the objectives of the SPCR.
- (iv) The Project is also in line with the new World Bank Country Partnership Strategy (FY2014-2017) for Jamaica (endorsed by the Executive Directors on April 29, 2014) which seeks to address climate change vulnerabilities by investing in measures that protect the poor and enhance shared prosperity. The fisher folk of Jamaica are among the poorest and most vulnerable in the country and any direct interventions to support their resilience would contribute directly to poverty alleviation and strengthened capacity to withstand climate shocks.